

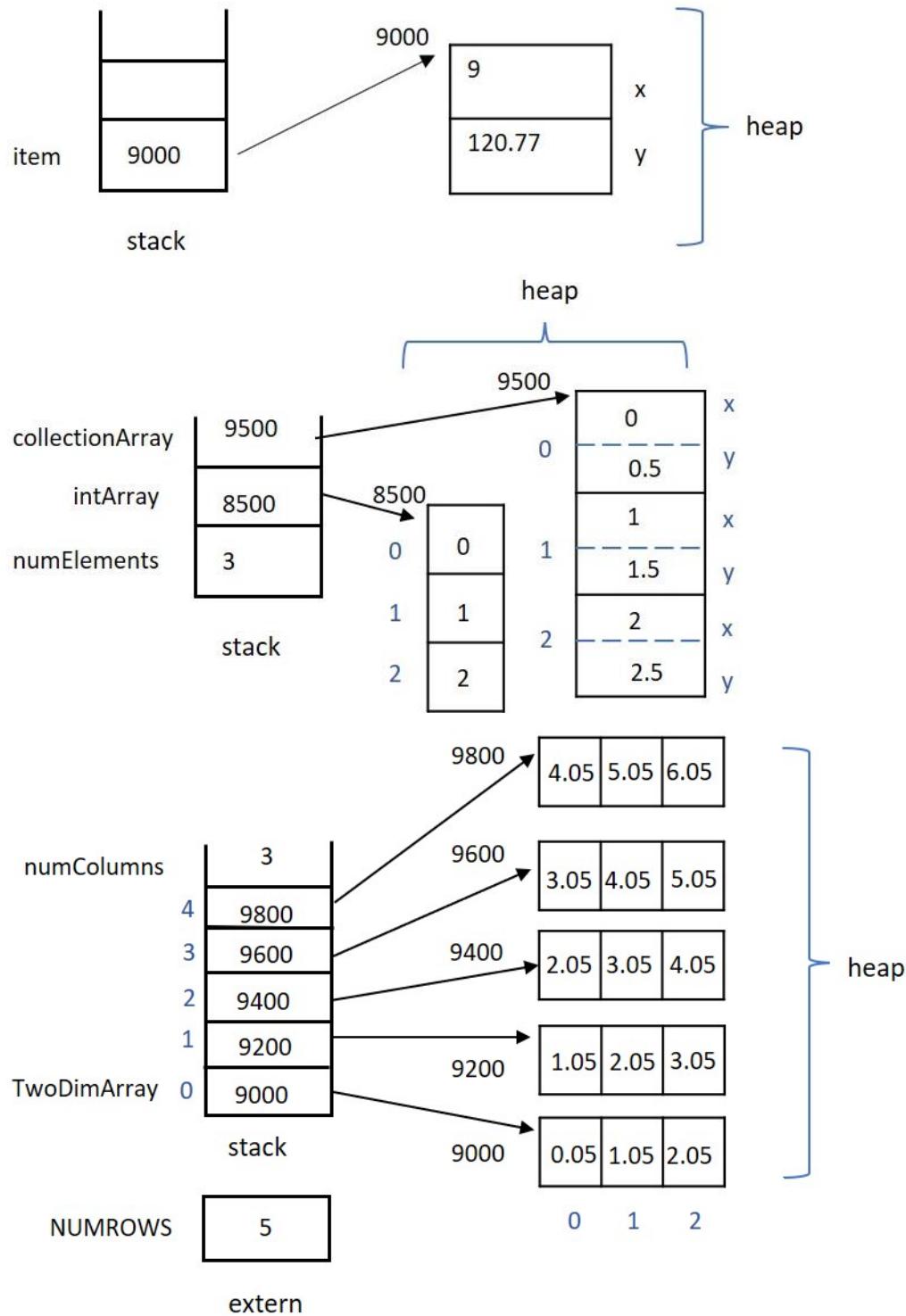
# Chapter 1: Understanding Basic C++ Assumptions

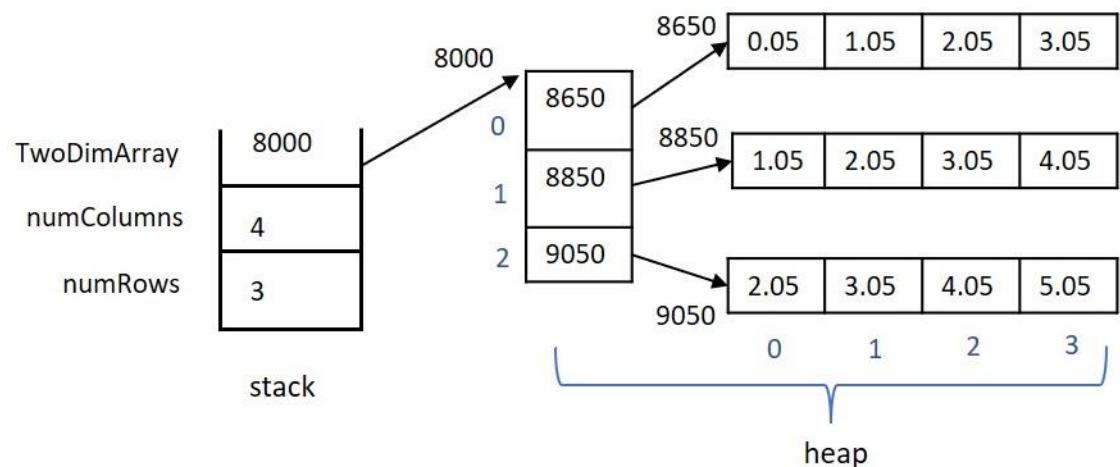
Binary operators			
+	addition	$+=$	plus equal
-	subtraction	$-=$	minus equal
*	multiplication, pointer indirection	$*=$	times equal
/	division	$/=$	div equal
%	modulus (remainder from an integer divide)		
&	address-of, reference, bitwise AND		
	bitwise OR		
^	bitwise XOR		
$\ll$	left shift, insertion operator		
$\gg$	right shift, extraction operator		
$==$	equality (comparison)		
$!=$	inequality		
<	less than	$\leq$	less than or equals
>	greater than	$\geq$	greater than or equals
$\&\&$	logical AND		
$\ $	logical OR		
Unary operators			
+	unary plus		
-	unary minus		
$\sim$	one's complement		
!	not		
$--$	decrement		
$++$	increment		
Ternary operator			
:	conditional expression		

## **Chapter 2: Adding Language Necessities**

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## Chapter 3: Indirect Addressing: Pointers





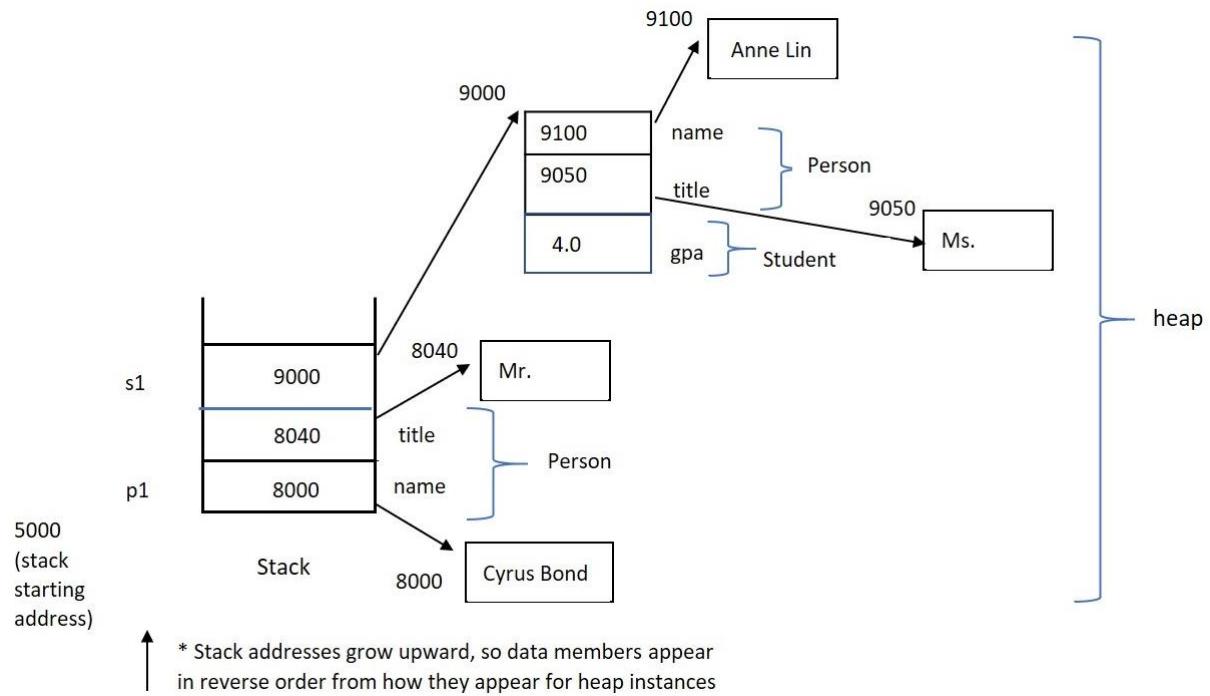
## **Chapter 4: Indirect Addressing: References**

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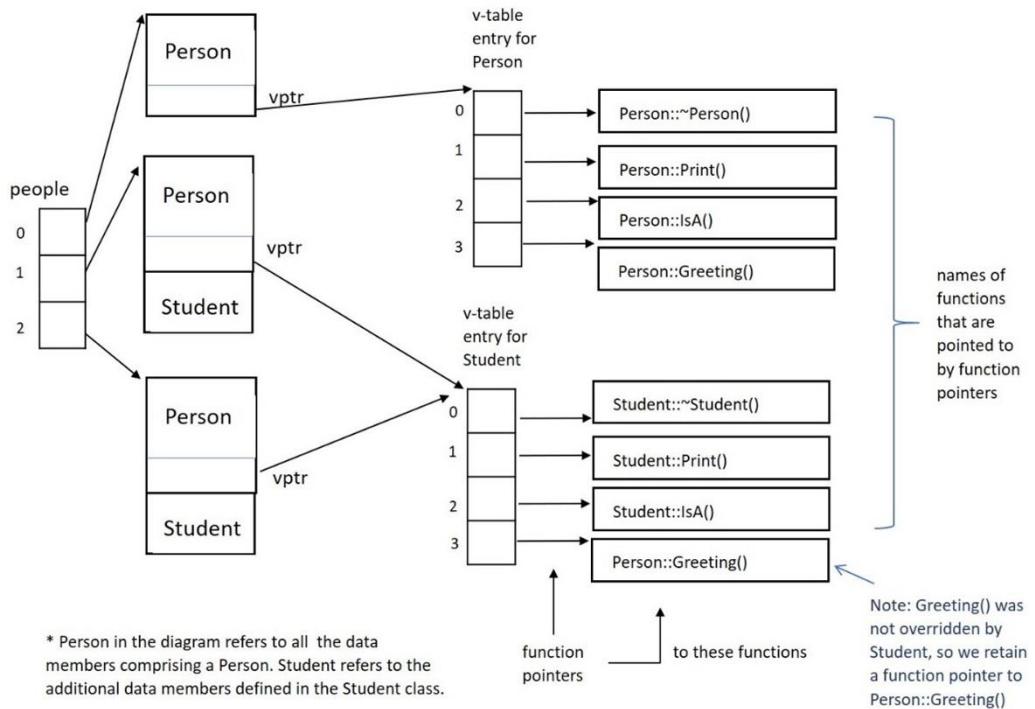
## **Chapter 5: Exploring Classes in Detail**

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## Chapter 6: Implementing Hierarchies with Single Inheritance



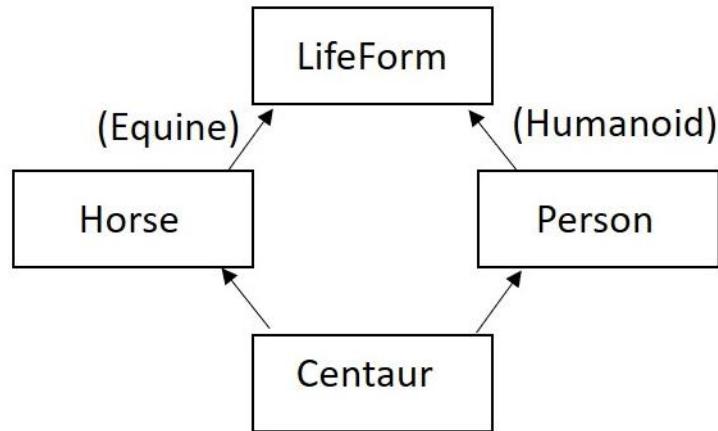
# Chapter 7: Utilizing Dynamic Binding through Polymorphism



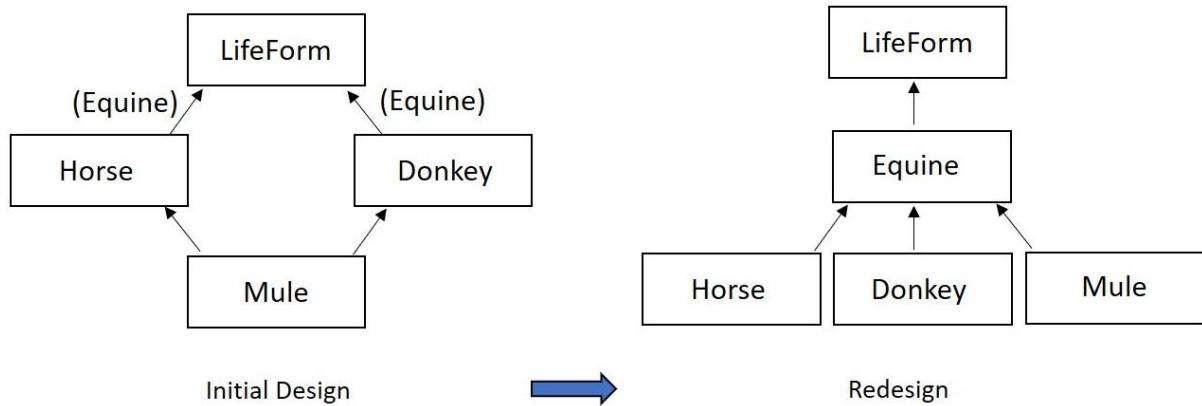
## Chapter 8: Mastering Abstract Classes

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## Chapter 9: Exploring Multiple Inheritance



\* Discriminators are in ()'s



## **Chapter 10: Implementing Association, Aggregation, and Composition**

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## **Chapter 11: Handling Exceptions**

*No-images...*

## **Chapter 12: Friends and Operator Overloading**

*No-images...*

## **Chapter 13: Working with Templates**

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## Chapter 14: Understanding STL Basics

<code>size_type size() const;</code>	Returns number of elements
<code>void push_back (const value_type &amp;element);</code>	Adds an element to the end
<code>bool empty() const;</code>	Returns TRUE if vector is empty
<code>void clear();</code>	Erases all elements in vector
<code>iterator begin();</code>	Returns an iterator pointing to the first element
<code>iterator end();</code>	Returns an iterator pointing to the last element

<code>iterator begin();</code>	Returns an iterator pointing to the first element
<code>iterator end();</code>	Returns an iterator pointing to the last element
<code>size_type size() const;</code>	Returns number of elements
<code>void push_back (const value_type &amp;element);</code>	Adds an element to end
<code>void push_front (const value_type &amp;element);</code>	Adds an element to front
<code>void pop_back();</code>	Removes element from end
<code>void pop_front();</code>	Removes element at front
<code>bool empty() const;</code>	Returns TRUE if empty
<code>void clear();</code>	Erases all elements

<code>size_type size() const;</code>	Returns number of elements
<code>void push (const value_type&amp;element);</code>	Adds an element to top
<code>void pop();</code>	Removes element from top
<code>bool empty() const;</code>	Returns TRUE if empty
<code>value_type &amp;top();</code>	Returns top element
<code>const value_type &amp;top() const;</code>	Returns top element (read only)

<code>size_type size() const;</code>	Returns number of elements
<code>bool empty() const;</code>	Returns TRUE if empty
<code>value_type &amp;front();</code>	Returns front element
<code>const value_type &amp;front() const;</code>	Returns front element (read only)
<code>value_type &amp;back();</code>	Returns back element
<code>const value_type &amp;back() const;</code>	Returns back element (read only)
<code>void push (const value_type &amp;element);</code>	Adds element to back of queue
<code>void pop();</code>	Removes element from front of queue

<code>size_type size() const;</code>	Returns number of elements
<code>bool empty() const;</code>	Returns TRUE if empty
<code>const value_type &amp;top() const;</code>	Returns top element (read only)
<code>void push (const value_type &amp;element);</code>	Adds an element to back
<code>void pop();</code>	Removes element from front
<code>void emplace(args);</code>	A new element is constructed using args and then added

<code>bool empty() const;</code>	Returns TRUE if empty, FALSE otherwise
<code>size_type size() const;</code>	Returns number of elements
<code>void clear();</code>	Empties out the map
<code>size_type erase(const key_type &amp;k);</code>	Erases element with key is k
<code>iterator erase(const_iterator pos);</code>	Erases element at iterator
<code>void swap(map &amp;);</code>	Swaps contents of 2 maps
<code>iterator insert(iterator pos, const value_type &amp;val);</code>	Insert val at pos
<code>iterator begin();</code>	Returns iterator pointing to first element
<code>iterator end();</code>	Returns iterator pointing past end
<code>iterator find(const key_type &amp;k);</code>	Find element whose key is k

## **Chapter 15: Testing Classes and Components**

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## Chapter 16: Using the Observer Pattern

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## Chapter 17: Applying the Factory Pattern

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## Chapter 18: Applying the Adapter Pattern

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## **Chapter 19: Using the Singleton Pattern**

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## **Chapter 20: Removing Implementation Details Using the pImpl Pattern Final**

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## Chapter 21: Making C++ Safer

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